

**REMARKS**

Claims 1-49 are pending in the application, with claims 22-35 being under examination. Claims 1-21 and 36-49 have been withdrawn from consideration as being directed to a non-elected invention. Claims 22, 24 and 30 have been amended above. Support for the amendments can be found throughout the application as filed. In particular, support for the amendment directed to a physical perturbation can be found at, for example, page 30, lines 14-17. Support for the amendment directed to a multidimensional coordinate point including n parameters can be found at, for example, page 17, line 25 through page 18, line 11; page 37, lines 11-24; page 40, lines 6-10, and at page 52, line 7 through page 54, line 3. Applicants have reviewed the rejections set forth in the Office Action mailed September 1, 2004, and respectfully traverse all grounds for the reasons that follow.

Applicants thank Examiners Smith and Marschel for extending a personal interview with Applicants' representatives on November 23, 2004. The amendments above and remarks below are believed by Applicant to address the subject matter discussed during the interview. Applicants respectfully request the Examiner's reconsideration and withdrawal of these rejections.

**Rejections Under 35 U.S.C. § 101**

Claims 22-35 stand rejected under 35 U.S.C. § 101 allegedly for being directed to non-statutory subject matter. The Office maintains that the claims lack either a physical transformation outside the computer or a practical application. Claims 22-35 also stand rejected for being directed to non-statutory subject matter allegedly because the methods merely manipulate numbers or abstract ideas.

Applicants maintain that the claimed invention is directed to statutory subject matter. Claims 20, 24 and 30 have been amended to clearly specify the claimed perturbation step constitutes a physical act on a network of a biochemical system. The claimed methods produce a diagnostic result because they allow the assignment of a cellular function to a component of a biochemical system. In light of these amendments, the rejection is now moot. Therefore, Applicants respectfully request withdrawal of these grounds of rejection.